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Short communication

NEW DATA ON TRUE BUG PREDATORS (HETEROPTERA: MIRIDAE) OF JUMPING PLANT-LICE (STERNORRHYNCHA: PSYLLOIDEA) IN SERBIA

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In most cases the only Heteroptera reported as feeding on jumping plant-lice (Hemiptera: Sternorrhyncha: Psylloidea) are the predatory species from the Anthocoridae and Miridae families (ARTIGUES *et al.*, 1996; HODKINSON & FLINT, 1971; LATTIN, 2000; WHEELER, 2000; ERLER, 2004). Among them, the most commonly reported species from the Anthocoridae family is *Anthocoris nemoralis* (F.), a polyphagous species which, however, prefers various species of the Psylloidea as a prey (HERARD, 1985, 1986; JONSSON, 1983; SOLOMON *et al.*, 2000; HORTON *et al.*, 2004; SIGSGAARD *et al.*, 2006). Species of another anthocorid genus, *Orius* Wolff, are common predators on eggs and larvae of the jumping plant-lice (HERARD, 1986).

So far little attention has been paid to natural enemies of the jumping plant-lice in Serbia. Only the natural enemies of the pear psyllids (*Cacopsylla pyri* and *C. pyrisuga*) were previously studied in more detail (PAVIĆEVIĆ, 1977; GRBIĆ *et al.*, 1989a,b; JERINIĆ-PRODANOVIĆ *et al.*, 2010). The list of the predators recorded from the pear psyllids includes several species of Heteroptera from the Anthocoridae and Miridae families, GRBIĆ *et al.* (1989a) also cite *Nabis pseudoferus* Remane from the family Nabidae.

We studied the fauna of the jumping plant-lice and their natural enemies in the broader area of Belgrade in the period of 2005–2009. The specimens of Psylloidea collected in the field were usually brought to laboratory conditions for further analysis and breeding, together with plant material and predators. The latter included also some adults of predatory Heteroptera which were collected from the colonies of the Psylloidea and their larvae which were further reared on the Psylloidea larvae in Petri dishes under laboratory conditions until they reached an identifiable adult stage. The identification was based on REUTER (1883), WAGNER (1970/71, 1973), PÉRICART (1972) and KERZHNER & JOSIFOV (1999). The voucher specimens are presently stored in the Entomological Collection of the Natural History Museum in Belgrade. Among the representatives

of the Heteroptera determined as predators of jumping plant-lice, there were also two species from the Miridae family, *Deraeocoris flavilinea* (A. Costa) and *Hypseloecus visci* (Puton), which are recorded here for the fauna of Serbia for the first time.

Deraeocoris (Deraeocoris) flavilinea (A. Costa, 1862)

A zoophagous species, recorded as a predator on small insects, it is an arboreal species first described from Sicily. A hundred years later it was found in Italy (Pericart, 1965). Now, *D. flavilinea* is an invasive species which is currently spreading throughout Europe, especially in parks in cities (KERZHNER & JOSIFOV, 1999). In Serbia it was first found in 2005 in Belgrade on *Rhamnus cathartica* (L.). It overwinters in the egg stage and has one generation a year (WAGNER, 1970/71). It is a Mediterranean species.

Preyers:

Cacopsylla bidens (Šulc, 1907) from *Pyrus communis* (L.)

Belgrade: Karaburma, 34T DQ 59496 62355, altitude: 110 m a.s.l., 4 May 2006. 1 adult ♀ emerged from rearings on 18 May 2006.

Homotoma ficus (Linnaeus, 1758) from *Ficus carica* (L.)

Belgrade: Banjica, 34T DQ 59077 55872, altitude: 190 m a.s.l., 21 May 2009. 3 adult specimens collected (2♀ and 1♂).

Trioza rhamni (Schränk, 1801) from *Rhamnus cathartica* (L.).

Belgrade: Hotel "Jugoslavija", 34T DQ 54375 63864, altitude: 77 m a.s.l., 26 May 2005. 1 adult ♂ emerged from rearings on 29 May 2005.

Psyllopsis discrepans (Flor, 1861) and *Psyllopsis machinosa* Loginova, 1963 from *Fraxinus angustifolia* Vahl.

Belgrade: Autokomanda, 34T DQ 58256 59642, altitude: 100 m a.s.l., 21 May 2009. 2 adult specimens collected (1♂ and 1♀).

Hypseloecus visci (Puton, 1888)

A phyto-zoophagous species. According to the available literature, it has not yet been recorded as a predator of jumping plant-lice. It lives on *Viscum album* L., overwinters in the egg stage and has one generation a year (WAGNER, 1973; WACHMANN *et al.*, 2004). *H. visci* was considered an exclusively phytophagous species by GROSSNER (2005) and BRIGGS (2011). ŠTYS (1975) mentions it as a possible predator, being a member of the subfamily Pilophirini, a systematic group which is exclusively predatory. During our laboratory studies it was reared in colonies of *Cacopsylla visci* which it used as a food. It was not previously recorded from Serbia (PROTIĆ, 1998).

Distribution: Euro-Asian (KERZHNER, 1970; KERZHNER & JOSIFOV, 1999; HELLRIGL, 2006; MORKEL, 2007).

Preyer:

Cacopsylla visci (Curtis, 1835) from *Viscum album* (L.)

Belgrade: Bulevar Aleksandra Karađorđevića, 34T DQ 57173 58724, altitude: 175 m a.s.l., 25 March 2007. 4 adult specimens (2♂ and 2♀) emerged from rearings on 16 April 2007.

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НОВИ ПОДАЦИ О ПРЕДАТОРИМА ЛИСНИХ БУВА (HETEROPTERA: MIRIDAE)

ДУШАНКА ЈЕРЕНИЋ-ПРОДАНОВИЋ и ЉИЉАНА ПРОТИЋ

Извод

У Србији до сада није било фаунистичког проучавања лисних бува и њихових природних непријатеља. Једино су проучавани природни непријатељи крушкиних лисних бува - *Sacopsylla pyri* i *C. pyrisuga* (PAVIČEVIĆ, 1977; GRBIĆ *et al.*, 1989; JERINIĆ-PRODANOVIĆ *et al.*, 2010). Међу предаторима се наводи неколико врста Heteroptera из фамилија Anthocoridae и Miridae, а GRBIĆ *et al.* (1989) наводе још и *Nabis pseudoferus* Remane из фамилије Nabidae.

У овом раду обрађене су две врсте предатора лисних бува из фамилије Miridae.

Deraeocoris (Deraeocoris) flavilinea (A. Costa, 1862) је нова врста за фауну Србије. То је медитеранска врста у експанзији. До 1965. била је позната само на Сицилији, а после проширује свој ареал прво у Италији, Француској, а сада је распрострањена у готово свим европским државама (KERZHNER, I. M., JOSIFOV M. 1999). У нашим истраживањима *D. flavilinea* је утврђена на пет врста лисних бува: *Cacopsylla bidens*, *Homotoma ficus*, *Trioza rhamn*, *Psyllopsis discrepans* и *Ps. machinosa*.

Hypseloeucus visci (Puton) је одрајена са једне врсте лисне буве *Cacopsylla visci*. Према расположивој литератури, *Hypseloeucus visci* до сада у свету није утврђена као предатор лисних бува. Овом истраживањима је први пут утврђена као предатор лисних бува и нови је члан фауне Heteroptera Србије.

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